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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/077,029	05/18/1998	MUTSUMI KIMURA	JAO40499	5555

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EXAMINER

LIN, JAMES

ART UNIT	PAPER NUMBER
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1762

DATE MAILED: 10/02/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/077,029

Applicant(s)

KIMURA ET AL.

Examiner

Jimmy Lin

Art Unit

1762

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 02 August 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 101-120 and 123 is/are pending in the application.
- 4a) Of the above claim(s) 116-120 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☐ Claim(s) 101-115 and 123 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date See Continuation Sheet.

- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 4/24/06 has been entered.

Election/Restrictions

2. Applicant's election with traverse of Group I, claims 101-115 and 123 in the reply filed on 8/2/06 is acknowledged. The traversal is on the ground(s) that the search and examination of the entire application could be made without serious burden. This is not found persuasive because a serious burden exists in the differing issues likely to arise during the prosecution of the differing species.

The requirement is still deemed proper and is therefore made FINAL.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 101-104, 106, and 110-115 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 101-104 recite "enhancing a repellency". It is indefinite as to what the repellency is enhanced against (i.e., liquids, oxygen, etc.). The Applicant only teaches that the liquid repellency is enhanced (pg. 21, 2nd full paragraph). For the purpose of this examination, the claims will be interpreted to enhance the repellency of a liquid.

Claims 106 and 110-115 recite "enhancing a lyophilicity". It is indefinite as to what the lyophilicity is enhanced towards (i.e., liquids, insulating material, etc.). The Applicant does not reasonably teach the material that the lyophilicity is enhanced towards. For the purpose of this

Art Unit: 1762

examination, the claims will be interpreted such that at least the lyophilicity towards some material will be enhanced when a UV radiation is applied, as taught by the Applicant (paragraph bridging pgs. 30-31).

5. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

6. Claims 101-104, 106, 110-115 and 123 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

There is no support for “enhancing a repellency” (claims 101-104). The Applicant only teaches that the liquid repellency is enhanced (pg. 21, 2nd full paragraph). There is no evidence that the Applicant had possession and had presented written disclosure fairly indicating that the Applicant intended to claim enhancing the repellency against the genus of all possible elements.

There is no support for enhancing the lyophilicity of the predetermined by plasma radiation, in addition to enhancing by UV radiation (claim 115). The Applicant only teaches that enhancing the lyophilicity is done by one of the methods of plasma or UV radiation (paragraph bridging pgs. 30 and 31), as opposed to using the combination of both methods. For the purpose of applying art, claim 115 will be assumed to be dependant of claim 113 such that enhancing the lyophilicity only requires a plasma radiation.

There is no support for the repellency of the side-wall of the insulating layer to a liquid or a liquid material being substantially different from that of the insulating layer (claim 123). The Applicant only teaches that the insulating material can generally be treated with UV or plasma radiation to enhance liquid repellency. For the purpose of applying art, the claim will be interpreted to be inclusive of forming an insulating layer with enhanced liquid repellency.

Claim Rejections - 35 USC § 102

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

8. Claims 101-108, 110-111, 113-114, and 115 are rejected under 35 U.S.C. 102(b) as being anticipated by JP 08-203439 (references made are to the English equivalent U.S. Patent 5,763,139, hereafter Matsunaga).

Claims 101-104: Matsunaga discloses a method of making a plasma display panel (PDP) (i.e., a type of EL device), the method comprising:

forming pixel electrodes 13 on a substrate 10;

forming an insulating layer 11d on the pixel electrodes;

patterning the insulating layer so as to expose a part of the pixel electrodes;

applying an optical material on part of the pixel electrodes (col. 2, lines 42-57; Figs. 3,4A-4C,5A-5C).

Matsunaga does not explicitly teach that a repellency at a surface of the insulating layer is enhanced. However, Matsunaga teaches that an ink is exposed to UV radiation (as required in claims 102 and 104) in order to cure and form the insulating layer. Therefore, a repellency at the surface of the insulating layer must necessarily be enhanced because Matsunaga teaches the limitations of claim 102 and 104. In addition, the insulating layer is cured such that the layer at least repels the applied fluorescent ink.

Claim 105: Matsunaga teaches that the insulating layer can surround the display cells (col. 2, lines 17-23; Figs. 1-2). A fluorescent ink (i.e., organic semiconductor material), comprising a resin such as ethylene glycol dimethacrylate (i.e., an organic) and a solvent, is applied to the display cell. The method includes an ink drying process for drying the fluorescent ink thereby evaporating the solvent (col. 2, lines 42-50; col. 4, lines 57-60). A second electrode 17 is formed (Fig. 3).

Claims 106,110,113-114: Matsunaga does not explicitly teach enhancing the lyophilicity at the predetermined position (i.e., the display cell). However, Matsunaga does teach that a UV

Art Unit: 1762

light is applied to the display cells in order to cure the applied fluorescent ink. Claim 114 requires that lyophilicity at the predetermined position is enhanced by UV radiation. Therefore, the UV light applied to the display cells as taught by Matsunaga must necessarily enhance the lyophilicity of the display cells.

Claim 107: The insulator layer covers at least a part of the first electrode, as discussed above.

Claim 108: An interlayer film 11c is formed over the insulating layer. The interlayer film is formed by curing with a UV light (col. 5, lines 1-14; Figs. 4D-4F).

Claim 111: The insulating layer is repellent to the fluorescent ink because the insulating layers form the partition walls that keep the ink contained (col. 5, lines 33-35).

Claim 115: The plasma display panel forms a plasma when used in its conventional manner to emit light. Therefore, the display cell must necessarily be exposed to plasma during its conventional use. Because a plasma is applied to the display cell as required by the claim, a lyophilicity must necessarily be increased in the display cell.

Claim Rejections - 35 USC § 103

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Art Unit: 1762

11. Claim 109 is rejected under 35 U.S.C. 103(a) as being obvious over Matsunaga '439 in view of Iguchi et al. (JP 08-162019, abstract provided by the Applicant).

Matsunaga teaches screen printing the fluorescent ink, but is open to other methods (col. 5, lines 35-38). Matsunaga does not explicitly teach ink jet printing the fluorescent ink into the display cells. However, Iguchi teaches a method of making a plasma display, wherein fluorescent ink is injected between partition walls using an ink jet printer (abstract). The selection of something based on its known suitability for its intended use has been held to support a prima facie case of obviousness. *Sinclair & Carroll Co. v. Interchemical Corp.*, 325 U.S. 327, 65 USPQ 297 (1945). Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to have ink jet printed the fluorescent ink of Matsunaga with a reasonable expectation of success because Iguchi teaches that such deposition methods are suitable for injecting fluorescent inks to make a plasma display.

12. Claims 112 and 123 are rejected under 35 U.S.C. 103(a) as being obvious over Matsunaga '439.

Matsunaga is discussed above, but does not explicitly teach that the top of the insulating layer is more repellent than the side-wall. However, Matsunaga teaches that an insulating layer 11b can be formed on top of and materially different from insulating layers 11c and 11d. The upper layer 11b is selected from a material having larger particle diameters than the underlying layers 11c and 11d. Matsunaga is silent as to the particular material of the upper layer 11b. Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to have selected an appropriate material to form the upper layer having larger particle diameters than the underlying insulating layers. At least some combinations of the upper and underlying layers have an upper layer being more repellent to the applied ink, as compared to the underlying layers.

13. Claim 115 is rejected under 35 U.S.C. 103(a) as being obvious over Matsunaga '439 in view of Kennedy et al. (U.S. Patent 5,409,777).

Matsunaga teaches using UV light to cure a photo-setting resin, but does not teach applying a plasma to enhance a lyophilicity at the predetermined position. However, Kennedy

Art Unit: 1762

teaches that a plasma application is a suitable substitute for UV curing (col. 21, lines 10-35). The selection of something based on its known suitability for its intended use has been held to support a prima facie case of obviousness. *Sinclair & Carroll Co. v. Interchemical Corp.*, 325 U.S. 327, 65 USPQ 297 (1945). Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to have used plasma to cure the fluorescent ink of Matsunaga with a reasonable expectation of success because Kennedy teaches that a plasma application is a suitable substitute for UV curing.

Because a plasma is applied to the display cell as required by the claim, a lyophilicity must necessarily be increased in the display cell.

Double Patenting

14. A rejection based on double patenting of the "same invention" type finds its support in the language of 35 U.S.C. 101 which states that "whoever invents or discovers any new and useful process ... may obtain a patent therefor ..." (Emphasis added). Thus, the term "same invention," in this context, means an invention drawn to identical subject matter. See *Miller v. Eagle Mfg. Co.*, 151 U.S. 186 (1894); *In re Ockert*, 245 F.2d 467, 114 USPQ 330 (CCPA 1957); and *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970).

A statutory type (35 U.S.C. 101) double patenting rejection can be overcome by canceling or amending the conflicting claims so they are no longer coextensive in scope. The filing of a terminal disclaimer cannot overcome a double patenting rejection based upon 35 U.S.C. 101.

15. Applicant is advised that should claims 101-102 be found allowable, claims 103-104 will be objected to under 37 CFR 1.75 as being a substantial duplicate thereof. When two claims in an application are duplicates or else are so close in content that they both cover the same thing, despite a slight difference in wording, it is proper after allowing one claim to object to the other as being a substantial duplicate of the allowed claim. See MPEP § 706.03(k).

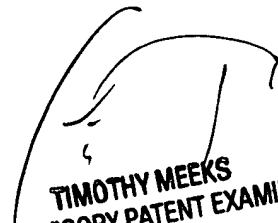
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jimmy Lin whose telephone number is 571-272-8902. The examiner can normally be reached on Monday thru Thursday 8 - 5:30 and Friday 8 - 4:30.

Art Unit: 1762

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tim Meeks can be reached on 571-272-1423. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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TIMOTHY MEEKS
SUPERVISORY PATENT EXAMINER

Continuation of Attachment(s) 3). Information Disclosure Statement(s) (PTO/SB/08), Paper No(s)/Mail Date :9/30/05, 3/3/06, 4/6/06, ~~5/2/06~~, 8/25/06.